

IN THE CLAIMS

The following slate of claims represents the present status of all claims in the application including claims presently amended.

1-69 (Cancelled).

70(Currently Amended). A propellant composition comprising a reduced energy binder, an oxidizer, and a fuel wherein

(a) said reduced energy binder includes a high molecular weight polyester polyol binder polymer including an amount of poly(1, 4-butanediol ~~tetramethylene~~ adipate) having a molecular weight (Mw_n) above 4000 (uncured) and an amount of one or more energetic plasticizers wherein the plasticizer to polymer ratio is less than 1.6:1;

(b) said oxidizer consists of a material selected from the group consisting of ammonium perchlorate and a mixture of ammonium perchlorate and sodium nitrate, and

(c) said fuel is aluminum.

71(Previously Presented). A propellant composition as in claim 70 wherein said reduced energy binder further comprises an amount of inert plasticizer material.

72(Previously Presented). A propellant composition as in claim 71 wherein said inert plasticizer is triacetin.

73(Previously Presented). A reduced energy binder as in claim 70 wherein the one or more energetic plasticizers are selected from the group consisting of nitrate esters of the group consisting of n-butyl-2-nitratoethyl nitramine; trimethylolethane trinitrate; triethyleneglycol dinitrate; butanetriol trinitrate; nitroglycerin and combinations thereof.

74(Previously Presented). A reduced energy binder as in claim 71 wherein the one or more energetic plasticizers are selected from the group consisting of nitrate esters of the group

consisting of n-butyl-2-nitratoethyl nitramine; trimethylolethane trinitrate; triethyleneglycol dinitrate; butanetriol trinitrate; nitroglycerin and combinations thereof.

75(Previously Presented). A reduced energy binder as in claim 72 wherein the one or more energetic plasticizers are selected from the group consisting of nitrate esters of the group

consisting of n-butyl-2-nitratoethyl nitramine; trimethylolethane trinitrate; triethyleneglycol dinitrate; butanetriol trinitrate; nitroglycerin and combinations thereof.

76(Previously Presented). A reduced energy binder as in claim 73 wherein the plasticizer is selected from the group consisting of nitroglycerin, n-butyl-2-nitratoethyl nitramine, trimethylolethane trinitrate and combinations thereof.

77(Previously Presented). A reduced energy binder as in claim 74 wherein the plasticizer is selected from the group consisting of nitroglycerin, n-butyl-2-nitratoethyl nitramine, trimethylolethane trinitrate and combinations thereof.

78(Previously Presented). A reduced energy binder as in claim 75 wherein the plasticizer is selected from the group consisting of nitroglycerin, n-butyl-2-nitratoethyl nitramine, trimethylolethane trinitrate and combinations thereof.

79(Previously Presented). A propellant composition as in claim 78 wherein the plasticizer is trimethylolethane trinitrate.

80(Currently Amended). A propellant composition as in claim 70 wherein the poly (1, 4-butanediol tetramethylene adipate) has a molecular weight MW_n above 6,000.

81(Currently Amended). An improved high solid propellant composition comprising by weight:

- (a) about 10% cured poly(1, 4-butanediol tetramethylene adipate) having a molecular weight $Mw_n \geq 6000$ (uncured) and cured using an isocyanate curing agent;
- (b) about 11% nitroglycerin plasticizer;

- (c) about 2.5% triacetin plasticizer;
- (d) about 22% aluminum; and
- (e) about 53% ammonium perchlorate oxidizer.

82(Currently Amended). An improved high solids propellant composition comprising by weight:

- (a) about 7% cured poly(1,4-butanediol ~~tetramethylene~~ adipate) having a molecular weight, $MW_n \geq 6000$ (uncured) and cured using an isocyanate curing agent;
- (b) about 6.5% n-butyl-2-nitratoethyl nitramine;
- (c) about 1.4% triacetin;
- (d) about 22% aluminum;
- (e) about 60% ammonium perchlorate; and
- (f) about 2% dicyandiamide.

83(Currently Amended). An improved high solids propellant composition comprising by weight:

- (a) about 11% cured poly(1,4-butanediol ~~tetramethylene~~ adipate) cured from a tetramethylene adipate prepolymer, MW_n about 6,000 (uncured) and cured using an isocyanate curing agent;
- (b) about 12% plasticizer selected from the group consisting of nitroglycerin and trimethylolethane trinitrate and combinations thereof;
- (c) about 22% aluminum; and
- (d) about 53% ammonium perchlorate.

84(Currently Amended). An improved high solids propellant composition comprising by weight:

- (a) about 11.3% cured poly(1,4-butanediol ~~tetramethylene~~ adipate) cured from a tetramethylene adipate prepolymer, MW_n about 6,200 (uncured) and cured using

an isocyanate curing agent;

(b) about 12.2% nitroglycerin plasticizer;

(c) about 22% (30 μ) aluminum; and

(d) about 53% (200 μ) ammonium perchlorate oxidizer.

85(Previously Presented). The propellant composition of claim 83 wherein (d) comprises about 30% ammonium perchlorate and about 22% sodium nitrate.